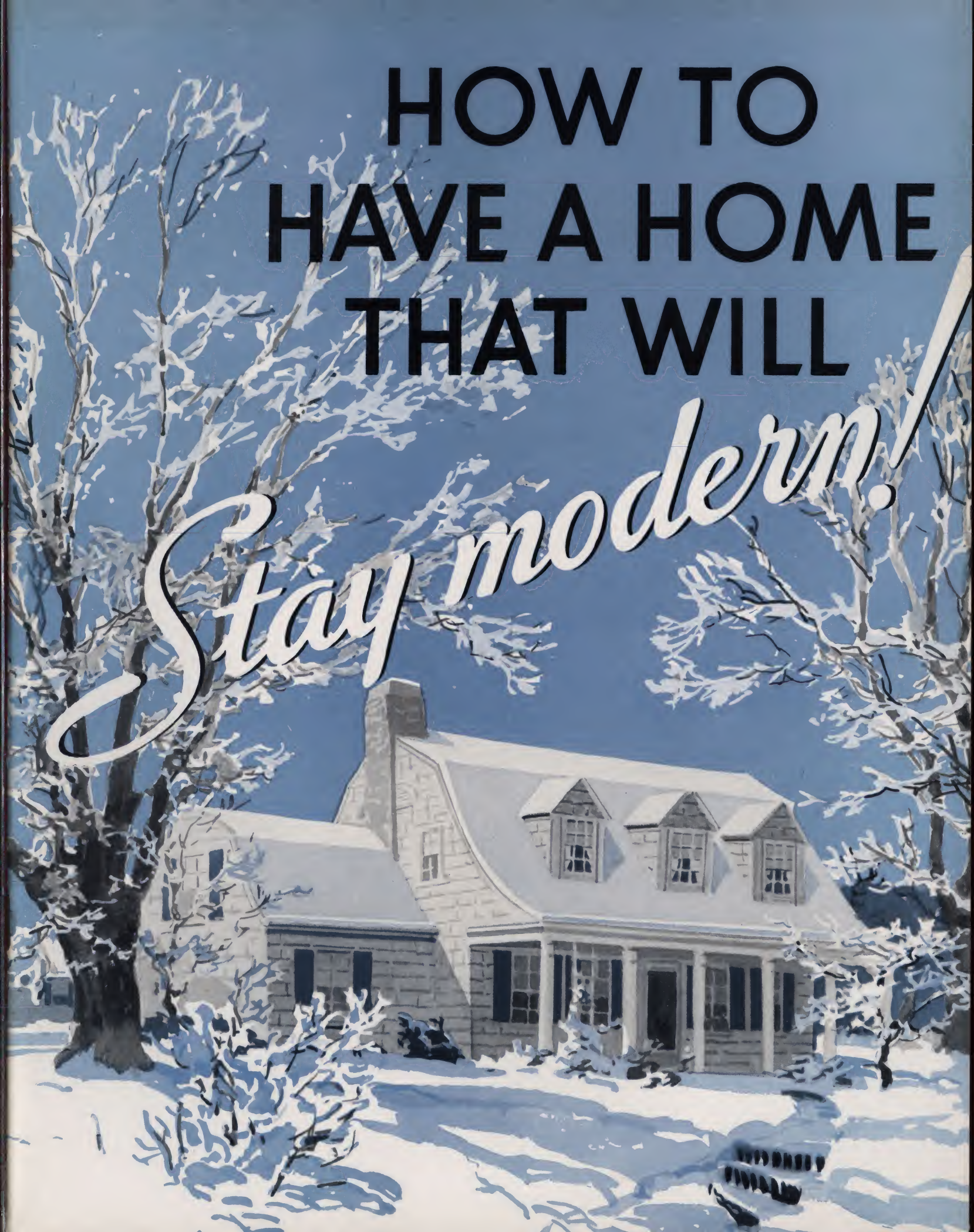
HOW TO HAVE A HOME THAT WILL *Stay modern!*



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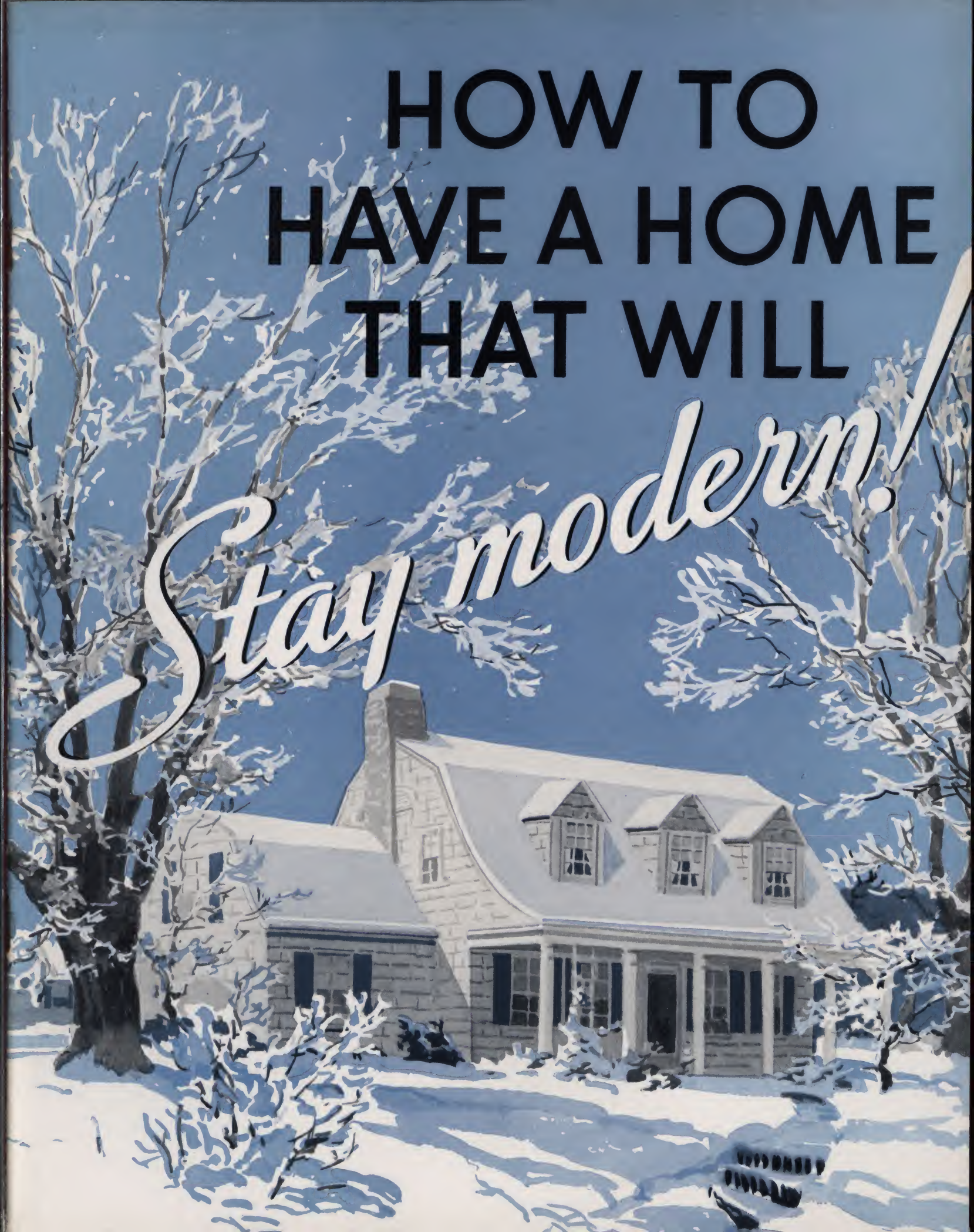

THESE TWO HOUSES ARE *NEW,*

YET a few years from now—

This one will be old-fashioned

This one will still be modern

WHY?

THE owner of the house at the left said, "Air conditioning? Oh, I suppose homes will have it some day. But it's still in the experimental stage. Besides, it's too expensive. I can't afford it. And what does 'air conditioning' mean anyway? Does it mean that I must cool my house in summer? Oh, what's the use of building castles in the air? My mind's made up. I'm sure I'm right. I'm installing a good radiator system. Maybe my son will have an air-conditioned home 20 years from now." (He didn't realize that there already are thousands of air-conditioned homes in the U.S. ranging in size from cottages to mansions.)

THE other home-owner was wiser. He got the facts. First of all, he learned that the G-E Air Conditioning System, with its sound design and substantial construction, could be installed in his home at about the cost of a vapor system with recessed radiation; that winter air conditioning is even more vital to health and comfort than summer air conditioning. He installed the G-E Air Conditioning System, planning to add cooling at some later date, knowing it could easily be added to the System without extensive changes. His home is delightfully comfortable—and it will be modern, years from now.

AIR CONDITIONING
by
GENERAL ELECTRIC

WHAT ORDINARY HEATING MEANS TO YOU AND YOUR HOME

Radiators do not add to the attractiveness of your rooms; they smudge the curtains and are

chiefly responsible for wide variations in temperature from floor to ceiling.

PROBABLY you have given little thought to the disadvantages of an ordinary heating system. You have no doubt experienced them, but you may have believed that they were unavoidable and that you ought to be thankful for equipment that kept you from freezing, even though it took much of the joy out of life. Perhaps so. But the fact remains that the annoyance and discomfort arising from the ordinary methods used to heat our homes are now unnecessary.

Let's be more specific. Objections to ordinary methods of heating may be listed on the ground that they do not correct the following conditions: uncomfortable differences of temperature between floor and ceiling, air stagnation, low humidity, excessive dust and stuffy atmosphere. With either a radiator system or a hot air system the room temperature seldom stays at a comfortable level; it's generally either too hot or too cold. Windows are opened and closed, radiators or registers turned on and off in vain. When it's comfortable at head level there's a chill at your feet and a hot blanket of air across the ceiling.

The air can be dead and motionless—oppressive. When there's heavy smoking, it's filled with the odor of stale tobacco smoke. To give ventilation, a window is opened, but soon closed because of draft.

Lack of a means for humidifying the air brings with it the many troubles caused by dry indoor atmosphere—dry sensations in your nose and throat, deterioration of furniture and draperies, cracking of woodwork.

Lack of a means for cleaning the air brings with it floating dust particles, too frequent house cleaning, and smudging of walls and curtains.

That feeling of stuffiness you have so often noticed in radiator-heated rooms is partly due to invisible heat rays given off by the hot radiator surface. Research has indicated that these heat rays affect the nasal passages and make breathing difficult.

These conditions of the air about you—dry air, drafts, rapid changes in temperature, cold floors, dust—are all allies of the common cold. At least part of the blame for the prevalence of colds in winter may be charged to the ordinary methods used in heating our homes.

You will recognize all these conditions as being not unusual with ordinary heating. Moreover, there is usually added the manual labor of furnace tending—a burden which still exists in the basement, even after thirty years of labor-saving progress elsewhere in the home. Since the means are now at hand for eliminating all these deficiencies in home heating, it is evident that an ordinary heating system places the stamp of antiquity even on the house built from modern plans.

With ordinary heating, dry air saps moisture from the furniture and furnishings

Without circulation there is no chance for tobacco-laden air to escape, and opened windows only produce drafts

Dry air, drafts and uneven heating are close allies of the common cold

Ordinary heating doesn't provide clean air; your vacuum cleaner works overtime

"The word 'HEATING' will soon pass out of use in referring to comfortable indoor atmosphere"

says the G-E AIR CONDITIONING INSTITUTE *and here at the G-E Proving Home they prove it!*

The General Electric Air Conditioning Proving Home in Schenectady, N. Y., where G-E Engineers have perfected new means of providing the right kind of indoor comfort

STRONG WORDS, you say? They certainly are, but they can't be dismissed lightly. They represent the carefully considered opinion of conservative engineers, based on research in the General Electric Air Conditioning Proving Home.

The G-E Proving Home is a ten-room frame house of typical construction, located in Schenectady, N. Y. This house is used to determine what conditions are necessary in the home to provide comfort and preserve health, and what equipment is needed to maintain those conditions. To provide the desired data the house has been equipped with a steam radiation system and a G-E Air Conditioning System, so the two may be studied under similiar conditions. Over a hundred electric thermometers have been placed throughout the house so that temperatures may be measured accurately and quickly. Instruments are also employed to measure air flow, noise level, ionic concentration in the air, and moisture and dust content of the air.

And what is equally important, the Proving Home is more than just a laboratory, for an engineer and his family occupy the house continually so that the direct

Making a dust count in the Proving Home. This device definitely shows there is a great deal less dust with air conditioning than with ordinary heating

Instrument room of G-E Proving Home. By means of the telegraph key on the desk, the engineer can read on the meter any one of over a hundred electric thermometers throughout the home

effects of air conditions on them may be studied.

From the work carried on in the Proving Home, General Electric engineers have learned at first hand of all the defects and inadequacies of ordinary heating systems, and have devised air conditioning methods to correct those defects.

They have studied the problem of temperature control, and found that with the radiator system the temperature of the air at the ceiling might be as much as 18 degrees higher than that at the floor. With the air conditioning system this temperature difference was greatly reduced.

They have studied the moisture requirements of homes, and have devised unique equipment to control the addition of moisture to the air. They have studied the cleaning effect of the filters in the air conditioner and found that the dust content of the air was greatly reduced, as was the amount of dusting and cleaning required to keep the house spick and span.

The engineers studied the technique of distributing air to the rooms without drafts and found that in addition to controlling the temperature, humidity and cleanliness of the air, a positive yet almost imperceptible motion was essential for the greatest comfort of the occupants of the home.

These, and many other things have been the subject of research at the Proving Home. And what does this mean? It means that G-E Air Conditioning products are designed to best meet the air conditioning requirements of the home. It means that a G-E Air Conditioning System in your home will give you comfort you never dreamed possible. A "Proving Home" is the only real way of studying such equipment and its proper application under actual living conditions.

The beakers on the table contain the amount of water that must be evaporated every hour in severe weather to correct the moisture conditions in the house

Library of Proving Home showing registers used to study three types of air discharge. The white wires are the electric thermometers which run to the meter in the instrument room

Two quarts of dirt removed in one month from the air of the Proving Home by the G-E Air Conditioner. This dirt would otherwise float in the air and settle on furniture

WHAT AIR C
MEANS TO YOU

A GREAT DEAL of confusion exists in the minds of most people concerning this term "Air Conditioning." No wonder—it has been used to describe everything from a trick fan to a mammoth installation in a theater. The phrase has been bandied about so carelessly that there is need here for a clear understanding of what it involves.

Do not forget that you live in a sea of air, that every second of the day it completely surrounds you, and that your very life depends on it. Because it is invisible and because you've always taken it for granted, air has been the last of the three necessities of life to receive serious attention. It is a well-known fact that the average daily requirements of a person are about 3½ pounds of food, 4 pounds of water, and *34 pounds of air*. And it must be evident that your comfort and well-being depend very much on the condition of this air.

You insist on pure food and water; why not *conditioned air?*

Nature is deficient in this respect. During the course of a year there are bitter cold and intense heat; dry air and humid air; mild breezes and gales. And most of the time the air outdoors carries more dust than you should tolerate in your home. Nature seldom coördinates her efforts to the extent that she produces and *maintains* outdoors just the right temperature, the right humidity, absence of dust, and proper

How would this beautiful entrance-hall look with an unsightly radiator? Note, instead, the small warm air register in one corner

Doesn't this attractive dining room look more so because there is no radiator to break up the beautiful wall space? No smudged curtains, either

ONDITIONING
AND YOUR HOME

motion of the air. Especially in winter do these problems become acute.

But indoors, with an air conditioning system, you can have all these factors under control, *automatically*. You can have just the temperature you want, uniform throughout your home. The air can be kept cleaner than it is outdoors, which means that housekeeping tasks are made easier. Moisture is added to the air to prevent that familiar dryness which causes deterioration of furniture and often gives a parched sensation in your nose and throat. Controlled circulation of the air does away with cold floors and overheated ceilings, and breaks up drafts.

If cooling equipment is added, air conditioning means an end to sweltering, sticky atmosphere during the summer. And even if the extra equipment is not added, an improvement in comfort can be obtained by circulating the air and filtering out the dust.

Air Conditioning also means the elimination of unsightly radiators, an end to stuffiness caused by heat radiation from high temperature surfaces, and no more manual labor in the basement. Air Conditioning in your home will mark it as being truly modern, and raise its value above the home with ordinary heating.

These are the facts, simple and unadorned. Do you wonder that the General Electric engineers say, "The word 'heating' will soon pass out of use in referring to comfortable indoor atmosphere"?

You have to look hard to find the register in this fine bedroom. Have you found it—in the far left-hand corner?

The G-E Air Conditioning System makes possible basements like this. There is just as much comfort here as in the living room

THE GENERAL ELECTRIC

The *modern* Way to

ECONOMICAL CLEAN

A—The G-E Oil Furnace B—The G-E Air Conditioner C—Domestic hot-water tank D—Oil-storage tank E—G-E Thermal Control F—Humidistat G—Supply Ducts H—Return Ducts I—Steam radiators

This is the General Electric Oil Furnace which provides domestic hot water and steam for the G-E Air Conditioner so economically

This is the General Electric Air Conditioner which heats, cleans, humidifies and circulates the air, providing a new kind of comfort in the home

This is the G-E Gas Furnace, which can also be used to supply steam economically to the G-E Air Conditioner

CONVENTIONAL IDEAS did not dictate the design of the General Electric Air Conditioning System. Recognizing the several disadvantages of trying to perform all of the Air Conditioning processes in a single unit, General Electric engineers designed a system of two units—one the G-E Oil Furnace or Gas Furnace, and the other the G-E Air Conditioner.

How the System Operates

The actual conditioning of the air takes place in the G-E Air Conditioner. Here the air is first cleaned by passing through an efficient filter. It is warmed by passing over coils heated with steam from the Oil Furnace or Gas Furnace. Moisture is added by a humidifier of unique design. The conditioned air—cleaned, warmed, and humidified—is then carried into the duct system by a quiet fan, and distributed evenly throughout the home.

The G-E Oil Furnace

The Furnace has a twofold job—producing steam for the heating coils in the Air Conditioner and heating domestic water for your storage tank.

Burning the oil in a steel boiler to produce steam does away with the conventional practice of heating the air by passing it over a sheet of metal surrounding the flame. In the G-E System there is no possibility of hot gases leaking into the ducts, and any noise of combustion is isolated in the steel boiler, away from the duct system.

Five years of research in the General Electric laboratories showed that the correct way to burn oil without soot,

AIR CONDITIONING SYSTEM

Have Indoor Comfort

AUTOMATIC QUIET

quietly, economically, and with complete safety—was to burn it in a coordinated oil furnace with a water-backed combustion chamber. Moreover, the G-E Oil Furnace gives you domestic hot water all year 'round.

The G-E Gas Furnace

Like its companion, the G-E Gas Furnace produces steam for the Air Conditioner, where gas fuel is to be used. Just as with the Oil Furnace, the flame burns in a boiler, and hot gases cannot leak into the duct system. The G-E Gas Furnace offers the economy resulting from careful, coördinated design and completely automatic controls. When the Gas Furnace is used, domestic hot water is heated at low cost, by an automatic storage water heater, because it is on the same gas meter.

Automatic Controls

All this is done automatically. During the day, the house temperature is kept at the desired level by the G-E Thermal Control. At bedtime an electric clock changes the temperature setting to a lower level, and early in the morning while you are sleeping soundly, it again changes the setting, so that the house is warm and comfortable when you get up to start the day's activities.

When the air indoors becomes too dry, humidifying water is turned on automatically until the humidity is raised to the setting of the humidistat.

With the Oil Furnace, even the water in your storage tank is kept hot—winter and summer—by an automatic temperature control built into the Furnace.

Other Features

Not all the steam produced need be used by the Air Conditioner. It is a simple matter to pipe some of it to radiators in rooms where the air conditioning is not essential, such as the garage, kitchen, bathrooms and servants' rooms.

The use of separate units makes it possible to place the Furnace, either Oil or Gas, near the chimney. The location of the Air Conditioner can be selected to effect the simplest duct arrangement.

Suitable G-E cooling equipment can be added to the system at the time of installation, or at a later date, so that one or more rooms can be kept comfortably cool during the hot summer months. It is only necessary to plan the duct arrangement for cooling when the system is installed.

The duct system is as important as the equipment, for upon it depends the correct distribution of air to the rooms. When designed by trained men, in accordance with the principles laid down at the G-E Proving Home, proper operation of the entire system is assured.

Here is the really modern Air Conditioning System, bearing the monogram that stands for quality and undivided responsibility—General Electric.

The General Electric Air Conditioning System. Above—With the G-E Oil Furnace. Below—With the G-E Gas Furnace

Below—The Humidistat which detects dryness of the air and turns on the humidifying water until the humidity comes up to the Humidistat setting

Above—The G-E Thermal Control which keeps the indoor temperature at the desired day and night settings. It is run by an electric clock and needs no winding or attention

This attractive bungalow has the new kind of indoor comfort produced by G-E Air Conditioning. Even the canary finds comfort in this basement. Could it in yours?

THE G-E AIR CONDITIONING SYSTEM ADDS ANOTHER FLOOR TO YOUR HOME

THE COST of the basement in the average home represents a substantial part of the total cost of the house. Yet, in most dwellings, this space is practically wasted. It is dusty and dirty, and chiefly used as a resting place for the ash barrel, the garbage can, the miscellaneous odds and ends that are no longer wanted upstairs.

The old-fashioned cellar has no place in the modern home. With the G-E Air Conditioning System you can have, instead, a modern recreation room. That is possible without going to great expense. The system itself is attractive, quiet and takes up little floor space. Paint the walls and floor, add a few pieces of furniture, and you have a livable, comfortable room where the children may play during the day, and where the adults may do the same in the evening. There need be no dust, dirt or odors with the G-E Air Conditioning System. With it, even the air in the recreation room can be conditioned.

Why not have such a basement in your home—an extra floor that is as clean and wholesome as the rest of your house?

G-E Air Conditioning has added another useful floor to this home. How about a game of ping-pong?

IF YOU ARE BUILDING A NEW HOME

Don't run the risk of having an old-fashioned home a few years from now because of an ordinary heating system. A G-E Air Conditioning System, in a new home, is comparable in cost to a vapor system with recessed radiators. The flexibility of the G-E System enables it to fit any architectural design, and we can have our Air Conditioning Specialist work with your architect from the preliminary-plan stage onward.

IF YOU HAVE A WARM-AIR HEATED HOME

Your present furnace can be removed and the G-E Air Conditioning System installed to make your home really modern and give you the advantages described in the preceding pages. The existing ducts in the walls need not be disturbed. Why wait to start enjoying a new kind of comfort, plenty of hot water at low cost, and the economical operation of a new G-E System?

Two more houses have been modernized by the G-E Air Conditioning Systems shown in these pictures

IF YOU HAVE A RADIATOR-HEATED HOME

You need not go without the benefits of air conditioning even though there are radiators in all rooms. It is an easy matter to remove the first floor radiators and install ducts in the basement to supply conditioned air to the rooms on that floor. The remaining radiators can be heated by steam or hot water from the G-E Oil Furnace or Gas Furnace. Thus you can enjoy the economy and automatic operation of the G-E System, and have real comfort in the rooms where it is most needed.

ONLY THE G-E AIR CONDITIONING SYSTEM

HAS *all* THESE FEATURES

1. **The G-E Air Conditioner**—Quietly delivers conditioned air through the neatly installed duct system. In the Air Conditioner the air supplied to the rooms is heated, humidified and cleaned.

2. **HEATING**—Steam is supplied to the heating coils in the Air Conditioner by either the G-E Oil Furnace or the G-E Gas Furnace. Both of these Furnaces are completely coördinated in design, automatic in operation, and remarkable for their fuel economy.

3. **Domestic Hot Water**—When the Oil Furnace is used, water is heated automatically, winter and summer, by a coil built into the Furnace. When the Gas Furnace is used, water is provided at house heating rates by a separate automatic storage gas heater. Thus, with either fuel you enjoy low cost water heating.

4. **The G-E Thermal Control**—A sensitive thermostat, with electric clock and time switch, which automatically maintains the temperature in the house at the desired day and night values.

5. **The Humidistat**—Automatically controls the addition of moisture to the air, keeping the relative humidity up to the value set on the Humidistat.

6. **Steam or Hot Water Radiators**—Because the G-E Oil Furnace or Gas Furnace produces steam, radiators can be installed in any room where odors originate, such as the garage and kitchen, or in other rooms where air conditioning is not needed.

7. **Summer Air Conditioning**—The ducts can be designed so that by the addition of cooling coils and cooling machine, cooled, cleaned and dehumidified air may be delivered to one or more rooms *through the same ducts as* used for heating. The equipment can be put in at the time of installation or added later.

8. **Coördination and Responsibility**—The Oil Furnace, Gas Furnace, Air Conditioner, controls and cooling equipment are all designed and produced by one reliable company—General Electric. There is no division of responsibility because the authorized G-E Air Conditioning dealer stands back of the whole job.

You Get More Than Just Equipment When You Buy The G-E Air Conditioning System

Back of your G-E Air Conditioning installation lies an unseen but vital element of skilled engineering talent, which is exercised in laying out the system and fitting it correctly to your home. As an authorized G-E Air Conditioning Dealer we adhere to the high standards of application and installation work set by General Electric. Our installations are supervised by G-E trained men. Yet you pay no premium for this extra service.